

MSU Weed Science Research Program

Evaluation of MON 63410 for weed control and soybean tolerance

Trial ID: SOY02-10 Study Dir.: Sprague, Powell
 Conducted: T-10 East Investigator: Christy Sprague

Date Planted: 5/19/2010 Row Spacing: 30 IN
 Variety: Pioneer 92M61 No. of Reps: 4
 Population: 155,000 Seeds/Acre % OM: 2.9
 Soil Type: Loam pH: 7.6
 Plot Size: 10 X 35 FT Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel plow and spring soil finish
 Fertilizer: None

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	AMASS	REDROOT PIGWEED, POWELL AMARANTH	AMARANTHUS SP.
2.	ANGR	mainly foxtail species	SETARIA SP.
3.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	BRAKA	MUSTARD, WILD	BRASSICA KABER (DC.) L.C. Wheeler
6.	POROL	PURSLANE, COMMON	PORTULACA OLERACEA L.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

Application Description

	A	B	C
Application Timing:	PRE	POST	LPOS
Date Treated:	5/19/2010	6/9/2010	6/21/2010
Time Treated:	8:00 pm	5:30 pm	9:30 am
% Cloud Cover:	15	50	0
Air Temp., Unit:	78 F	78 F	74 F
% Relative Humidity:	29	49	62
Wind Speed/Unit/Dir:	0 mph	12 mph SW	3 mph SE
Soil Temp., Unit:	65 F	72 F	68 F
Soil/Leaf Surface M:	4 -	3 5	4 5
Soil Moist (1=w 5=d):	3	3	3

Crop Stage at Each Application

	A	B	C
Crop Name:	GLXMA	GLXMA	GLXMA
Height (In.):	-	3-4"	6-8"
Stage (L):	-	V3	V4

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	AMASS	AMASS	AMASS
Height (In.):	-	1-3"	8-14"
Stage (L):	-	5-13	40-60
Weed 2 Name:	ANGR	ANGR	ANGR
Height (In.):	-	3-5"	8-12"
Stage (L):	-	5-7	4-6
Weed 3 Name:	AMBEL	AMBEL	AMBEL
Height (In.):	-	1"	4-8"
Stage (L):	-	6	8-12
Weed 4 Name:	CHEAL	CHEAL	CHEAL
Height (In.):	-	2"	5-7"
Stage (L):	-	8-10	20-30
Weed 5 Name:	BRAKA	BRAKA	BRAKA
Height (In.):	-	2-3"	16-22"
Stage (L):	-	6-7	14-20
Weed 6 Name:	POROL	POROL	POROL
Height (In.):	-	2" dia	4-8" dia
Stage (L):	-	6-8	40-60

Weed Density (plants/sq. ft.)

	1	2	3	4	5	6	7
Weed Name:	ANGR	CHEAL	AMBEL	POROL	AMASS	BRAKA	ABUTH
Density:	8	2	2	2	13	<1	<1

Application Equipment

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	GPA	Carrier	PSI
A	Cub	3.8	AirMix	11003	21"	20"	100"	19	water	28
B	Cub	3.8	AirMix	11003	24"	20"	100"	19	water	28
C	Cub	3.8	AirMix	11003	26"	20"	100"	19	water	28

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Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	# Subsamples, Dec.	GLXMA injury percent 6/16/2010 7 DA-B	ANGR control percent 6/16/2010 7 DA-B	CHEAL control percent 6/16/2010 7 DA-B	AMASS control percent 6/16/2010 7 DA-B	AMBEL control percent 6/16/2010 7 DA-B	BRAKA control percent 6/16/2010 7 DA-B	
1	MON 63410	3	L	3	pt/a	PRE	A	1	74	33	80	0	66
1	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C						
1	AMS		WG	17	lb/100 gal	LPOS	C						
2	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	4	92	99	99	97	99
2	MON 63410	3	L	3	pt/a	POST	B						
2	AMS		WG	17	lb/100 gal	POST	B						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	10	95	99	99	99	99
3	Outlook	6	L	18	fl oz/a	POST	B						
3	AMS		WG	17	lb/100 gal	POST	B						
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	14	94	99	99	99	99
4	Dual II Magnum	7.64	L	1.33	pt/a	POST	B						
4	AMS		WG	17	lb/100 gal	POST	B						
5	OpTill	68	WG	2	oz/a	PRE	A	1	70	99	99	96	99
5	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C						
5	AMS		WG	17	lb/100 gal	LPOS	C						
6	OpTill	68	WG	2	oz/a	PRE	A	2	99	99	99	99	99
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
6	MON 63410	3	L	3	pt/a	POST	B						
6	AMS		WG	17	lb/100 gal	POST	B						
7	Valor	51	WG	2	oz/a	PRE	A	2	48	98	86	80	99
7	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C						
7	AMS		WG	17	lb/100 gal	LPOS	C						
8	Valor	51	WG	2	oz/a	PRE	A	5	98	99	99	99	99
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
8	MON 63410	3	L	3	pt/a	POST	B						
8	AMS		WG	17	lb/100 gal	POST	B						
9	Untreated							0	0	0	0	0	0
10	Extreme	2.17	L	3	pt/a	POST	B	30	92	99	99	97	99
10	Activator 90		L	0.25	% v/v	POST	B						
10	AMS		WG	17	lb/100 gal	POST	B						
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	4	92	99	99	93	99
11	AMS		WG	17	lb/100 gal	POST	B						
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	3	94	99	99	94	99
12	AMS		WG	17	lb/100 gal	POST	B						
12	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C						
12	AMS		WG	17	lb/100 gal	LPOS	C						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C	0	0	0	0	0	0
13	AMS		WG	17	lb/100 gal	LPOS	C						
LSD (P=.05)							2.7	11.8	3.9	2.7	4.2	4.4	
Standard Deviation							1.9	8.3	2.7	1.9	3.0	3.1	
CV							32.88	11.39	3.45	2.36	4.06	3.81	

Means followed by same letter do not significantly differ (P=.05, LSD)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Weed Code									ANGR	CHEAL	AMASS	AMBEL	ABUTH	
Crop Code									GLXMA					
Rating Data Type									injury					
Rating Unit									percent					
Rating Date									6/30/2010					
Trt-Eval Interval									21 DA-B					
# Subsamples, Dec.									0					
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
1	MON 63410	3	L	3	pt/a	PRE	A	0	91	91	91	80	80	
1	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C							
1	AMS		WG	17	lb/100 gal	LPOS	C							
2	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	6	98	98	98	97	99	
2	MON 63410	3	L	3	pt/a	POST	B							
2	AMS		WG	17	lb/100 gal	POST	B							
3	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	3	94	97	96	96	99	
3	Outlook	6	L	18	fl oz/a	POST	B							
3	AMS		WG	17	lb/100 gal	POST	B							
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	5	97	97	97	99	99	
4	Dual II Magnum	7.64	L	1.33	pt/a	POST	B							
4	AMS		WG	17	lb/100 gal	POST	B							
5	OpTill	68	WG	2	oz/a	PRE	A	2	90	99	99	99	99	
5	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C							
5	AMS		WG	17	lb/100 gal	LPOS	C							
6	OpTill	68	WG	2	oz/a	PRE	A	4	98	99	99	99	99	
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B							
6	MON 63410	3	L	3	pt/a	POST	B							
6	AMS		WG	17	lb/100 gal	POST	B							
7	Valor	51	WG	2	oz/a	PRE	A	0	94	99	99	99	99	
7	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C							
7	AMS		WG	17	lb/100 gal	LPOS	C							
8	Valor	51	WG	2	oz/a	PRE	A	4	99	99	99	99	99	
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B							
8	MON 63410	3	L	3	pt/a	POST	B							
8	AMS		WG	17	lb/100 gal	POST	B							
9	Untreated							0	0	0	0	0	0	
10	Extreme	2.17	L	3	pt/a	POST	B	5	95	99	97	98	99	
10	Activator 90		L	0.25	% v/v	POST	B							
10	AMS		WG	17	lb/100 gal	POST	B							
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	2	88	95	92	96	98	
11	AMS		WG	17	lb/100 gal	POST	B							
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	1	89	99	99	99	99	
12	AMS		WG	17	lb/100 gal	POST	B							
12	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C							
12	AMS		WG	17	lb/100 gal	LPOS	C							
13	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C	0	79	75	87	83	76	
13	AMS		WG	17	lb/100 gal	LPOS	C							
LSD (P=.05)								1.8	5.0	3.2	6.1	4.2	3.0	
Standard Deviation								1.3	3.5	2.2	4.3	2.9	2.1	
CV								56.03	4.13	2.52	4.83	3.32	2.42	

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								BRAKA	ANGR	CHEAL	AMASS	AMBEL	POROL
Weed Code													
Crop Code													
Rating Data Type								control	control	control	control	control	control
Rating Unit								percent	percent	percent	percent	percent	percent
Rating Date								6/30/2010	8/2/2010	8/2/2010	8/2/2010	8/2/2010	8/2/2010
Trt-Eval Interval								21 DA-B	54 DA-B	54 DA-B	54 DA-B	54 DA-B	54 DA-B
# Subsamples, Dec.								0	0	0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code						
1	MON 63410	3	L	3	pt/a	PRE	A	86	84	99	98	95	94
1	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C						
1	AMS		WG	17	lb/100 gal	LPOS	C						
2	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	99	79	98	97	94	90
2	MON 63410	3	L	3	pt/a	POST	B						
2	AMS		WG	17	lb/100 gal	POST	B						
3	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	99	71	97	92	97	91
3	Outlook	6	L	18	fl oz/a	POST	B						
3	AMS		WG	17	lb/100 gal	POST	B						
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	99	86	93	92	96	78
4	Dual II Magnum	7.64	L	1.33	pt/a	POST	B						
4	AMS		WG	17	lb/100 gal	POST	B						
5	OpTill	68	WG	2	oz/a	PRE	A	99	80	99	99	99	97
5	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C						
5	AMS		WG	17	lb/100 gal	LPOS	C						
6	OpTill	68	WG	2	oz/a	PRE	A	99	90	99	99	98	97
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
6	MON 63410	3	L	3	pt/a	POST	B						
6	AMS		WG	17	lb/100 gal	POST	B						
7	Valor	51	WG	2	oz/a	PRE	A	99	80	99	98	99	99
7	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C						
7	AMS		WG	17	lb/100 gal	LPOS	C						
8	Valor	51	WG	2	oz/a	PRE	A	99	86	99	99	98	99
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B						
8	MON 63410	3	L	3	pt/a	POST	B						
8	AMS		WG	17	lb/100 gal	POST	B						
9	Untreated							0	0	0	0	0	0
10	Extreme	2.17	L	3	pt/a	POST	B	99	61	99	99	96	97
10	Activator 90		L	0.25	% v/v	POST	B						
10	AMS		WG	17	lb/100 gal	POST	B						
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	99	44	92	85	92	92
11	AMS		WG	17	lb/100 gal	POST	B						
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	99	53	98	89	99	98
12	AMS		WG	17	lb/100 gal	POST	B						
12	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C						
12	AMS		WG	17	lb/100 gal	LPOS	C						
13	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C	96	90	71	99	97	94
13	AMS		WG	17	lb/100 gal	LPOS	C						
LSD (P=.05)								2.0	15.7	6.6	5.7	4.5	8.7
Standard Deviation								1.4	11.0	4.6	4.0	3.2	6.1
CV								1.53	15.8	5.24	4.57	3.54	7.05

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Weed Code

Crop Code
 Rating Data Type
 Rating Unit
 Rating Date
 Trt-Eval Interval
 # Subsamples, Dec.

GLXMA moisture percent
 GLXMA yield bu/acre
 10/11/2010
 10/11/2010
 145 DA-A at 13% M
 1 1

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code		
1	MON 63410	3	L	3	pt/a	PRE	A	8.6	45.6
1	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C		
1	AMS		WG	17	lb/100 gal	LPOS	C		
2	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	8.6	41.5
2	MON 63410	3	L	3	pt/a	POST	B		
2	AMS		WG	17	lb/100 gal	POST	B		
3	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	8.5	50.5
3	Outlook	6	L	18	fl oz/a	POST	B		
3	AMS		WG	17	lb/100 gal	POST	B		
4	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	8.3	47.7
4	Dual II Magnum	7.64	L	1.33	pt/a	POST	B		
4	AMS		WG	17	lb/100 gal	POST	B		
5	OpTill	68	WG	2	oz/a	PRE	A	8.4	45.8
5	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C		
5	AMS		WG	17	lb/100 gal	LPOS	C		
6	OpTill	68	WG	2	oz/a	PRE	A	8.5	47.6
6	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B		
6	MON 63410	3	L	3	pt/a	POST	B		
6	AMS		WG	17	lb/100 gal	POST	B		
7	Valor	51	WG	2	oz/a	PRE	A	8.7	46.8
7	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C		
7	AMS		WG	17	lb/100 gal	LPOS	C		
8	Valor	51	WG	2	oz/a	PRE	A	8.5	47.7
8	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B		
8	MON 63410	3	L	3	pt/a	POST	B		
8	AMS		WG	17	lb/100 gal	POST	B		
9	Untreated							9.4	17.7
10	Extreme	2.17	L	3	pt/a	POST	B	8.5	48.5
10	Activator 90		L	0.25	% v/v	POST	B		
10	AMS		WG	17	lb/100 gal	POST	B		
11	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	8.5	45.0
11	AMS		WG	17	lb/100 gal	POST	B		
12	Roundup PowerMax	4.5	SL	22	fl oz/a	POST	B	8.7	45.0
12	AMS		WG	17	lb/100 gal	POST	B		
12	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C		
12	AMS		WG	17	lb/100 gal	LPOS	C		
13	Roundup PowerMax	4.5	SL	22	fl oz/a	LPOS	C	8.4	44.8
13	AMS		WG	17	lb/100 gal	LPOS	C		
LSD (P=.05)								0.25	8.99
Standard Deviation								0.17	6.29
CV								2.02	14.24

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